CLAIMS

1. A method for removing contaminants from contaminated water, said methods comprising the steps of:
   (a) passing the contaminated water through a first electrochemical cell, said first electrochemical cell having a first anode, a first cathode and a first direct current source, said first anode and first cathode being connected to said first direct current source such that said first anode is normally positively charged and said first cathode is normally negatively charged;
   (b) passing the contaminated water through a second electrochemical cell, said second electrochemical cell having a second anode, a second cathode and a second direct current source, said second anode and second cathode being connected to said second direct current source such that said second anode is normally positively charged and said second cathode is normally negatively charged;
   (c) passing the contaminated water through a third electrochemical cell, said third electrochemical cell having a third anode, a third cathode and a third direct current source, said third anode and third cathode being connected to said third direct current source such that said third anode is normally positively charged and said third cathode is normally negatively charged;
   (d) passing the contaminated water through a media filter to remove any particulates therein.

2. A method as claimed in claim 1, wherein said first anode is formed from a non-ferrous material and said second anode is formed from a ferrous material.

3. A method as claimed in claim 1, wherein said first anode is formed from a non-ferrous material and said second anode is formed from aluminum.

4. A method as claimed in claim 2, wherein said third anode is formed from a non-ferrous material.

5. A method as claimed in claim 1, wherein said second anode is formed from a metallic material, said metallic material being selected such that the ions released in the contaminated water while said second anode is connected to said second direct current source tend to react with said contaminant to form a compound insoluble in water.

6. A method as claimed in claim 1, wherein at least one of said direct current sources is adapted to provide a residual ripple.

7. A method as claimed in claim 1, wherein each of said electrochemical cells are mounted substantially adjacent to one another.

8. A method as claimed in claim 1, wherein said first, second and third electrochemical cells together comprise a single composite electrochemical cell, and wherein said first, second and third cathodes of said three electrochemical cells together comprise a unitary cathode.

9. A method as claimed in claim 8, wherein said first, second and third anodes of said electrochemical cells together comprise a single composite anode having at least three distinct sections.

10. A method as claimed in claim 9, wherein each of said three distinct sections are formed from one of at least two materials, said materials

chosen such that no two adjacent sections are formed from the same material.

11. A method as claimed in claim 10, wherein one of said at least two materials is a ferrous material.

12. A method as claimed in claim 10, wherein one of said at least two materials is aluminum.

13. A method of removing arsenic in the form of As(III) ions from an aqueous solution, said method comprising the steps of:
    (a) electrochemically oxidizing the As(III) ions to As(V) ions;
    (b) adding Fe(II) ions to the aqueous solution;
    (c) electrochemically oxidizing the Fe(II) ions to Fe(III) ions; and
    (d) removing the resulting ferric arsenate from the aqueous solution.

14. A method as claimed in claim 13 wherein said Fe(II) ions are added by placing the aqueous solution in an electrochemical cell having a ferrous anode.

15. A method as claimed in claim 13 wherein said electrochemical oxidation of said As(III) ions is performed in an electrochemical cell having a non-ferrous anode.

16. A method as claimed in claim 13, wherein the step of electrochemically oxidizing said Fe(II) ions is at least partially performed in an electrochemical cell having a non-ferrous anode.

17. A method as claimed in claim 13, wherein the step of removing the ferric arsenate from the aqueous solution is performed by passing said aqueous solution through a filter.

18. A contaminant reduction system for the reduction of contaminants in water from a water source, the system comprising:
    (a) an inlet for receiving the water from the water source;
    (b) three electrochemical cells in fluid communication with one another and with said inlet, each of said electrochemical cells having an anode and a cathode;
    (c) at least one direct current source connected to said anodes and cathodes;
    (d) a filter for removing insoluble particles; and
    (e) an outlet in fluid communication with said inlet.

19. A contaminant reduction system as claimed in claim 18, wherein at least one of said anodes is formed from a non-ferrous material.

20. A contaminant reduction system as claimed in claim 18, wherein at least one of said anodes is formed from aluminum.

21. A contaminant reduction system as claimed in claim 18, wherein at least one of said anodes is formed from a ferrous material.

22. A method as claimed in claim 18, wherein said second anode is formed from a metallic material, said metallic material being selected such that the ions released in the contaminated water while said second anode is connected to said second direct current source tend to react with said contaminant to form a compound insoluble in water.

23. A contaminant reduction system as claimed in claim 18, wherein said three electrochemical cells together comprise a single composite electrochemical cell, said cathodes of said three electrochemical cells together comprising a unitary cathode.

24. A contaminant reduction system as claimed in claim 23, wherein said anodes of said electrochemical cells together comprise a single composite anode having at least three distinct sections.

25. A contaminant reduction system as claimed in claim 24, wherein each of said three distinct sections are formed from one of at least two materials, said materials chosen such that no two adjacent sections are formed from the same material.

26. A contaminant reduction system as claimed in claim 25, wherein one of said at least two materials is a ferrous material.

27. A contaminant reduction system as claimed in claim 25, wherein one of said at least two materials is aluminum.